

METHOD OF PATTERNING PROCESS METROLOGY BASED ON THE INTRINSIC
FOCUS OFFSET

ABSTRACT OF THE DISCLOSURE

A method of controlling imaging and process parameters in a lithographic process comprises providing a control pattern having an isolated feature with a pitch greater than twice a width of an individual feature, and exposing and developing a calibration resist layer with the control pattern design at a plurality of dose and focus settings. Width of the printed calibration control pattern feature is measured near the top and bottom of the resist layer thickness, and optimum dose and focus settings are then determined. Control patterns are printed at fixed exposure dose and focus settings on a production substrate, and width is measured near the top and bottom of the resist layer thickness. The widths of the production control pattern features are compared with the control pattern model parameters, and the imaging and process parameter settings in the production process are adjusted based on the comparison of the widths.